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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/535,392	11/08/2005	Lumin Feng	6246-3/US	4422

28997 7590 01/05/2007  
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ST. LOUIS, MO 63105

EXAMINER
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DAGER, JONATHAN M

ART UNIT	PAPER NUMBER
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3663

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/05/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

## Office Action Summary

Application No.

10/535,392

Applicant(s)

FENG, LUMIN

Examiner

Jonathan M. Dager

Art Unit

3663

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 18 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☒ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 27 June 2006.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

### DETAILED ACTION

Examiners note: Acknowledgment is made of applicant's claim for foreign priority based on an application filed in China on 18 November 2002. It is noted, however, that applicant has not filed a certified English translation of the Chinese application as required by 35 U.S.C. 119(b). In order to fully meet the requirements of 119(b) a translation of the foreign priority document is required.

MPEP 2304.01(c)

Should applicant desire to obtain the benefit of foreign priority under 35 U.S.C. 119(a)-(d) prior to declaration of an interference, a **certified English translation** of the foreign application must be submitted in reply to this action, 37 CFR 41.154(b) and 41.202(e). Failure to provide a certified translation may result in no benefit being accorded for the non-English application.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 6 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Consider **Claim 6**, which discloses a "prompting unit (18, 19)". The "prompting unit" is mentioned in the specification, but is never **clearly, or concisely described in**

**exact terms.** Further, the numbered designation of the "prompting unit (18, 19)" cannot be located in the drawings and figures provided.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Regarding **Claims 3 and 4**, the phrase "can be" renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Examiner's note: the above-mentioned claims will be examined on their merits.

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 6, 8, and 9 are rejected under 35 U.S.C. 102(e) as being anticipated by **Treyz et al. (US 6,711,474)**

Consider **Claims 1 and 9**, which discloses an intelligent traffic method and system which contains components that can work wirelessly with a terminal located in a car to exchange information, such as traffic conditions, location of vehicle, driving

Art Unit: 3663

directions, and arrange for toll payments without stopping the vehicle. All communications with the in-vehicle terminal are established wirelessly and carried out over the cellular mobile communication system.

Treyz discloses that wireless communications with the automobile personal computer 14 may be unidirectional (e.g., radio and data broadcasts, satellite radio and data broadcasts, GPS signals, etc.) Wireless communication with automobile personal computer 14 may also be bidirectional. Bidirectional links may support **cellular voice** and data traffic (column 12 lines 26-30).

Further, Treyz discloses that any data exchange may use terrestrial antennas such as antenna 55 and base stations such as base station 56. Base stations such as base station 56 may be **cellular base stations** such as cellular telephone base stations or any other suitable wireless terrestrial base stations (column 11 lines 3-10).

Claims 1 and 9 disclose that the first component of the system is a traffic control center, which is responsible for receiving both intrinsic and dynamic vehicle data, as well as providing the in-vehicle terminal with driving instructions.

In lieu of a traffic control center, Treyz discloses that any central computer can be used in this capacity. In one such example Treyz invention discloses that various devices in the home such as computers, computing devices, web appliances and other in-home electronic devices may be used to interact with the automobile personal computer (column 2 lines 8-10). In one example, Treyz provides that custom driving instructions may be sent by a company to the company's delivery trucks. Such custom instructions may involve circuitous routes calculated by complex optimization programs

Art Unit: 3663

at the company's central facilities. Such routes may be sent to automobile personal computer 14 and played back to the user through the automobile's sound system (e.g., using voice synthesis). If, by design or accident, the driver goes off-route (i.e., the driver temporarily does not follow the driving directions being provided by the automobile personal computer), automobile personal computer 14 may use a map database (e.g., a CD or DVD map database in automobile 12 or a remote server database accessed over a remote wireless link) to recalculate directions from the driver's current location back onto the custom route. Because the custom route is provided to automobile personal computer 14, automobile personal computer 14 may display navigational directions for the custom route on displays such as a front-panel display that the driver may follow (column 86 lines 36-54). Treyz has established that wireless, cellular communications can occur between the automobile computer and any remote unit; in the provided example, the company can act as Applicant's traffic control center as well as traffic information service center. Treyz invention, when implemented in a fleet of vehicles, can accept a preprogrammed route from a central site, and adjust the route using current positioning data obtained from the GPS receiver. Additionally, filtered traffic reports may be provided using location information (column 3 lines 16-17), and the automobile personal computer may be used to send a traffic report to a service (column 3 lines 38-39).

The second component of the system is a travel information service center. This component exchanges traffic data with the vehicle terminal.

Art Unit: 3663

As stated above, Treyz discloses that **filtered traffic reports may be provided using location information** (column 3 lines 16-17), and the automobile personal computer may be used to **send a traffic report to a service** (column 3 lines 38-39).

The third component of the system is a road toll collection system implemented to provide toll payment from the vehicle to the toll operator wirelessly, and without stopping the vehicle.

Treyz discloses an automobile personal computer which may also communicate with computing equipment in a gas station 20, **toll collection facility 22**, or drive-through restaurant 24 (column 10 lines 45-47).

Consider **Claim 6**, which discloses an in vehicle terminal for a car comprised of a CPU, GPS module for receiving satellite signals, cellular communication module, memory, speech synthesis module, output module, keyboard, external interface, display screen, and a sound/light signal unit.

Treyz discloses an in-vehicle personal computer which comprises:

- One or more **processors 72** such as a microprocessor 74, a digital signal processor 76, and other suitable processors 78. **Storage 80 may include** a hard disk drive 82, random-access memory 84, non-volatile memory 86, and any other suitable memory and storage devices. Processors 72 or dedicated circuitry (e.g., analog-to-digital and digital-to-analog converters) in automobile personal computer 14 may support functions such as the decoding of MP3 files or other digital audio, the decoding of streaming Internet audio, **voice-recognition functions, voice-synthesis functions**, multimedia functions such as handling

Art Unit: 3663

compressed digital video, streaming Internet multimedia content, etc. (column 13 lines 44-55).

- A **GPS receiver** which may be used to receive GPS satellite signals (column 14 lines 3-4).
- Wireless communications with the automobile personal computer 14 may be unidirectional (e.g., radio and data broadcasts, satellite radio and data broadcasts, GPS signals, etc.) Wireless communication with automobile personal computer 14 may also be bidirectional. Bidirectional links may support **cellular voice** and data traffic (column 12 lines 26-30).
- Base stations such as **cellular telephone base stations** or any other suitable wireless terrestrial base stations may be used for a communication medium (column 11 lines 7-10).
- Input/output devices on the in-vehicle computer may include keys 126. Keys 126 may include numeric keys, letter keys, function keys, etc. Telephone-type keys may be used that have numbers and associated sets of letters. A full set of letter keys may be provided if miniature keys are used or if a keypad is located in a position in which space is less of an issue (e.g., in the rear seat or in the glove compartment, etc.). The keys may be provided as a **keyboard**, as a keypad, or in any other suitable arrangement (column 14 lines 39-46).
- Ports for external devices such as **port 125 may be used to connect peripherals and other devices to automobile personal computer 14**. Port



Art Unit: 3663

125 may be a USB port, a parallel port, a FireWire port, or any other suitable port (column 14 lines 30-33).

- A personal computer which may be mounted in the dash of an automobile. A front panel may be provided that has buttons and a **display**. Supplemental **displays** may be provided for the passengers of the automobile.
- Custom instructions sent to a vehicle may involve circuitous routes calculated by complex optimization programs at the company's central facilities. Such routes may be sent to automobile personal computer 14 and **played back to the user through the automobile's sound system (e.g., using voice synthesis)** (column 86 lines 35-42).

Next, Claim 6 discloses that GPS information is to be received and then processed by the invention's CPU. The GPS data is then displayed as real-time information. This data is then transmitted to a traffic control center and to a travel information center; the travel information center providing feedback.

Treyz invention discloses illustrative steps involved in using location information to provide the user with location-sensitive directions are shown in FIG. 27. At step 472, **the location of automobile 12 is determined** (e.g., by using GPS, DGPS, network-based location schemes, or any other suitable approach). If the location information is provided by a facility that is distant from the automobile personal computer, the location information may be provided to the automobile personal computer over a remote or local **wireless link**. At step 474, the user may be provided with an opportunity to supply destination information to the automobile personal computer. The destination

Art Unit: 3663

information may be supplied by pressing buttons on the front panel of the automobile personal computer, by pressing options that are displayed on a touch screen, by interacting with automobile personal computer 14 using voice commands and audio prompts, by using a pointing device such as a trackball or the like to interact with on-screen options, using handwriting recognition, using a pen-based input device, or using any other suitable approach. At step 476, the automobile personal computer may provide the user with directions based on the known current location of the automobile and the destination information supplied by the user. The directions may be provided as audio played through the automobile's sound system. Directions may also be displayed on a suitable display. A graphical interface may be used to indicate the user's **current position, the destination**, and the preferred route (column 31 lines 25-50).

Treyz invention discloses that various devices in the home such as computers, computing devices, web appliances and other in-home electronic devices may be used to interact with the automobile personal computer (column 2 lines 8-10). In one example, Treyz provides that custom driving instructions may be sent by a company to the company's delivery trucks. Such custom instructions may involve circuitous routes calculated by complex optimization programs at the company's central facilities. Such routes may be sent to automobile personal computer 14 and played back to the user through the automobile's sound system (e.g., using voice synthesis). If, by design or accident, the driver goes off-route (i.e., the driver temporarily does not follow the driving directions being provided by the automobile personal computer), automobile personal computer 14 may use a map database (e.g., a CD or DVD map database in automobile

Art Unit: 3663

12 or a remote server database accessed over a remote wireless link) to recalculate directions from the driver's current location back onto the custom route. Because the custom route is provided to automobile personal computer 14, automobile personal computer 14 may display navigational directions for the custom route on displays such as a front-panel display that the driver may follow( column 86 lines 36-54). Treyz has established that wireless, cellular communications can occur between the automobile computer and any remote unit; in the provided example, the company can act as Applicant's traffic control center as well as traffic information service center. Treyz invention, when implemented in a fleet of vehicles, can accept a preprogrammed route from a central site, and adjust the route using current positioning data obtained from the GPS receiver. Additionally, filtered traffic reports may be provided using location information (column 3 lines 16-17), and the automobile personal computer may be used to send a traffic report to a service (column 3 lines 38-39).

Consider **Claim 7**, which discloses all of the embodiments of Claim 6, but further discloses that the cellular communications module includes the capability of toll payment.

Treyz, as established above, discloses an in-vehicle computer which can establish communication via wireless/cellular means. Additionally, Treyz discloses an automobile personal computer which may also communicate with computing equipment in a gas station 20, **toll collection facility 22**, or drive-through restaurant 24 (column 10 lines 45-47).

Art Unit: 3663

Consider Claim 8, which discloses all of the embodiments of Claim 6, but further states that the in-vehicle terminal must contain a FM broadcasting additional channel digital communications module, wherein the terminal can receive digital information from a public broadcasting detailing local traffic information.

Treyz discloses the automobile personal computer 14 may receive information from terrestrial broadcast antennas such as antenna 58 over terrestrial radio and data links such as wireless broadcast link 60. Antennas such as antenna 58 may be **FM antennas**, AM antennas, or any other suitable terrestrial broadcast antennas.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2-5, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Treyz et al. (US 6,711,474) in view of Matsui et al. (US 2002/0145541)

Consider **Claims 2-4**, which contains all of the embodiments of Claim 1, but further discloses that the intelligent traffic system can contain a vehicle management system and a vehicle traveling assistance system, both communicating wirelessly with the in-vehicle terminal, and over a wire to the traffic control center. Additionally, the

Art Unit: 3663

vehicle management system can be part of the traffic control center, and the vehicle traveling assistance system can be part of the vehicle management system.

In lieu of a vehicle traveling assistance system, Treyz discloses, in a previously mentioned example, how the invention can be manipulated for use in **commercial vehicles**, wherein a centralized computer can relay travel information wirelessly to a fleet vehicle, including directions and traffic updates. Treyz does not disclose a device which provides vehicle registration to other systems.

5. However, Matsui discloses, in lieu of a vehicle management system, an explanatory diagram of prior art showing the constitution of a known toll-road automatic toll collection system which uses radio wave-based remote identification technology. In the scheme based on the aforementioned disclosure, when a vehicle 27 carrying a **wireless communications device** corresponding to the automatic toll collection system passes through a set communications area for a toll gate of the toll road, a roadside antenna 29 installed upon the gate is used for communication between the roadside wireless device 30 of the automatic toll collection system and the wireless device carried by said vehicle 27, **so an identification number previously registered** for paying tolls is recognized and recorded, and then the vehicle 27 recognized by this identification number is charged a toll based on recorded data for the segment of the toll road traveled (para 0012 lines 1-2).

Given the teachings of Matsui, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the device of Treyz to incorporate a toll collection method that would allow for a scanner to read a vehicle registration number,

Art Unit: 3663

or use an identification number to be accessed by an external system to recognize vehicle registration.

Doing so would increase road efficiency and traffic conditions.

6. Consider **Claims 5 and 10**, which contain all of the embodiments of Claims 1 and 9, respectively, but further state that the traffic control center contains a traffic information acquisition system.

As described above, a fleet of vehicles can receive operating instructions from a central control point. Further, Treyz discloses that **traffic information provided to users** can reflect the information from an e-mail report (as text or streaming audio or in any other suitable format). The **traffic information** may be provided over the Internet, may be provided as a data service using satellite or terrestrial wireless distribution techniques, may be provided as part of a radio broadcast, or may be provided using any other suitable technique. The traffic information may be provided as text, graphics, audio, or video. If, for example, the user appends a digital still image to the e-mail, such an image may be provided to users as part of the service. The recipients of the traffic service may be located in other automobiles or may be located at any other suitable location (e.g., the home or office, etc.) (column 69 lines 41-53).

Given the teachings of Treyz, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the Treyz's device to allow the vehicles to receive real time traffic information from a central control location.

***References Cited but not Used***

The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure. The following references are cited for disclosing related limitations of the applicant's claimed and disclosed invention:

1. Oda et al "AUTOMATIC VEHICLE GUIDANCE SYSTEM, CONTROL APPARATUS IN AUTOMATIC VEHICLE GUIDANCE SYSTEM, AUTOMATIC VEHICLE GUIDANCE METHOD, AND COMPUTER-READABLE DATA RECORDED MEDIUM IN WHICH AUTOMATIC VEHICLE GUIDANCE SYSTEM PROGRAM IS RECORDED" US 6,591,172
2. Kolls "COMMUNICATION INTERFACE DEVICE FOR MANAGING WIRELESS DATA TRANSMISSION BETWEEN A VEHICLE AND THE INTERNET" US 7,003,289
3. Marlatt et al. "NAVIGATION RADIO FOR FLEET CAR USAGE" US 6,988,034
4. Ukai et al. "METHOD AND APPARATUS FOR GATHERING VEHICLE INFORMATION" US 6,711,495

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan M. Dager whose telephone number is 571-270-1332. The examiner can normally be reached on 0830-1800 (M-F), (M-Th on bye week).

Art Unit: 3663

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrell McKinnon can be reached on 571-272-4797. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jonathan Dager

Patent Examiner  
15 December 2006

  
TERRELL L. MCKINNON  
SUPERVISORY PATENT EXAMINER